Ultra-Stable Miniature Thermistor

ATH10KR8B3950K0.5%

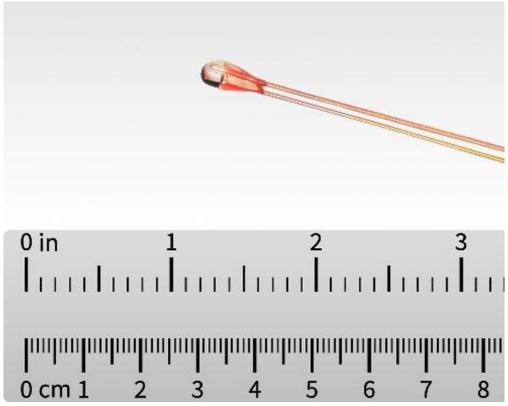

Figure 1. The Physical Photo of ATH10KR8B3950K0.5%

MAIN FEATURES

Glass Encapsulated for Long Term Stability & Reliability
High Stability: <0.1°C/year
Small Size: ϕ0.8mm ×1.65mm
High Resistance Accuracy: 0.5%
Quick Response Time: 4s
Wide Temp. Range: –40°C to 250°C
Leads: dumet wires (copper-clad FeNi)
100% Lead (Pb)-free and RoHS Compliant

APPLICATIONS

The ATH10KR8B3950K0.5% thermistor is ideal for temperature sensing in high-precision devices such as laser diodes and optical components that require accurate temperature monitoring. In addition, due to its low cost, it is also suitable for use in automotive electronics, industrial electronics, and home appliances where cost-effective temperature sensing is required.

DESCRIPTION

Figure 1 displays the ATH10KR8B3950K0.5% thermistor, which boasts high precision and a glass encapsulation design. In contrast to conventional epoxy-encapsulated thermistors, the ATH10KR8B3950K0.5% offers superior long-term stability and a wider temperature range. Moreover, it has a compact size and a quick response time.

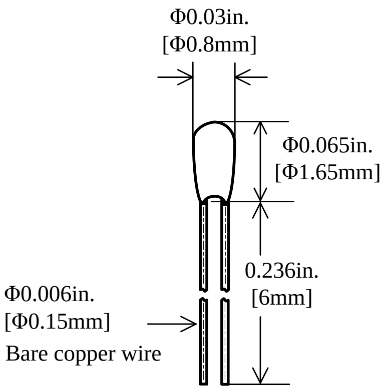

Figure 2. Side View of ATH10KR8B3950K0.5%

SPECIFICATIONS

Parameters	Symbol	Value
Nominal Resistance @ 25°C	R_{25}	10K ± 0.5%
B Value @ 25°C /50°C	$B_{25/50}$	3950K ± 1%
Thermistor Diameter	D_T	0.8 ± 0.15mm
Thermistor Length	L_T	1.65mm
Lead Diameter	D_L	0.15± 0.05mm
Lead Length	L_L	6 ± 5mm
Dissipation Factor	δ_{th}	1.2mW/°C
Insulation Resistance	R_{is}	<10MΩ
Time Constant	τ_c	4s (in still air @5~25°C)

APPLICATION

One common issue encountered when potting the thermistor into a solid object to sense its temperature is the formation of air bubbles within the epoxy between the thermistor bead and the target object. These air bubbles can significantly delay the thermistor's response time. To address this problem, it is recommended to drill a deep counterbore hole and use thermal conductive epoxy to pot the thermistor at the bottom of the hole, as illustrated in Figure 3. This method effectively reduces the formation of air bubbles and enhances the thermistor's overall performance.

To prevent the formation of air bubbles during the potting process, it is recommended to cure the epoxy at the temperature specified by the manufacturer. For optimal results, curing should be conducted in a vacuum environment and/or on top of a vibration platform to eliminate any remaining air pockets. By taking these measures, the potting process can be optimized, resulting in accurate temperature sensing with the shortest possible response time.

The ATH10KR8B3950K0.5% thermistor is terminated with leaded bare copper wires. For applications that require insulated lead wires, we offer insulation tubing. For more information, please click **HERE**.

The radial glass bead encapsulation NTC thermistor exhibits superior resistance to heat and climatic conditions and have a long lifetime compared to resin-coated thermistors. It is made of bonding lead wire, gold/silver electrodes and qualified ceramic thermistor chip, which makes it keep stable characteristics. It features long-term stability, reliability, wide temperature range and fast thermal response time. Multiple bead diameters and sensor spec. are available. And they can be easily incorporated into various housing options because of their small size.

Please note that the ATH10KR8B3950K0.5% thermistor is not designed for direct immersion in water or other electrically conductive or corrosive liquids, due to the non-isolated nature of its leads. Doing so may result in inaccurate resistance readings, damage to the thermistor's leads, or pose a safety hazard.

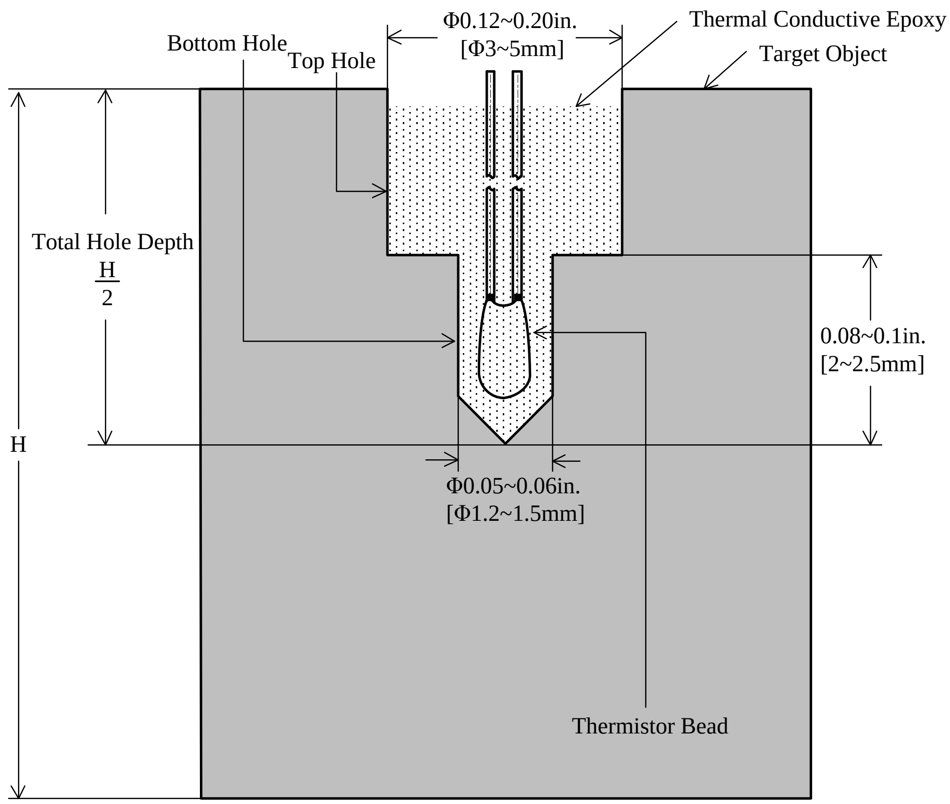

Figure 3. Section View of Recommended Counterbore Hole

PART NUMBER CONVENTION

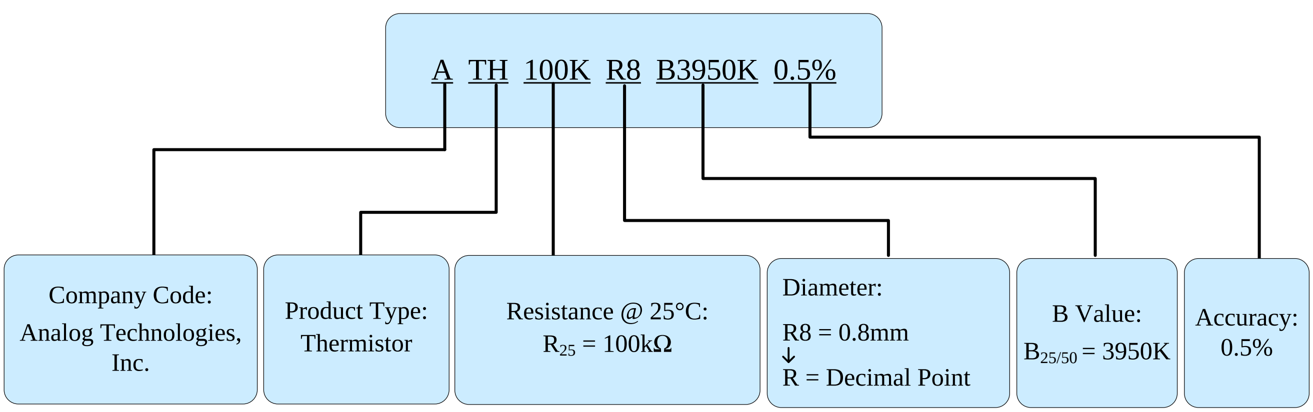

Figure 4. Part Number Convention of ATH10KR8B3950K0.5%

RESISTANCE TEMPERATURE CHARACTERISTICS

$B_{25/50}$ = 3950K, R_{25} = 10kΩ, T_R = 25°C, $\frac{\Delta R_T}{R_T}$: ± 0.5%,

T (°C)	Resistance (kΩ)			Relative Resistance Variation at a Specific Temperature (±%)	Temperature Measurement Error at a Specific Temperature (±°C)	Temperature Coefficient (%/°C)
	Minimum	Nominal	Maximum	$\frac{\Delta R_T}{R_T}$	$\Delta T_N = \frac{\Delta R_N}{R_{N+1} - R_{N-1}}$	$\alpha = \frac{R_{N-1} - R_{N+1}}{2 \times R_N}$
–40	289.436	301.189	312.941	3.90	0.30	6.53
–39	271.385	282.215	293.041	3.84	0.30	6.49
–38	254.599	264.582	274.561	3.77	0.29	6.43
–37	238.981	248.187	257.391	3.71	0.29	6.38
–36	224.441	232.933	241.421	3.64	0.29	6.32
–35	210.896	218.734	226.571	3.58	0.29	6.27
–34	198.272	205.508	212.741	3.52	0.28	6.22
–33	186.500	193.182	199.861	3.46	0.28	6.16
–32	175.516	181.689	187.861	3.40	0.28	6.11
–31	165.261	170.966	176.671	3.34	0.28	6.06
–30	155.683	160.957	166.231	3.28	0.27	6.00
–29	146.769	151.648	156.531	3.22	0.27	5.94
–28	138.432	142.946	147.461	3.16	0.27	5.89
–27	130.630	134.809	138.991	3.10	0.27	5.84
–26	123.327	127.195	131.061	3.04	0.26	5.79
–25	116.485	120.068	123.651	2.98	0.26	5.75
–24	110.074	113.393	116.711	2.93	0.26	5.70
–23	104.062	107.137	110.211	2.87	0.25	5.66
–22	98.423	101.273	104.121	2.81	0.25	5.61
–21	93.130	95.772	98.411	2.76	0.25	5.57
–20	88.161	90.610	93.059	2.70	0.24	5.57
–19	83.402	85.669	87.937	2.65	0.24	5.59
–18	78.933	81.033	83.133	2.59	0.23	5.55
–17	74.736	76.681	78.626	2.54	0.23	5.50
–16	70.793	72.594	74.396	2.48	0.23	5.46
–15	67.086	68.754	70.423	2.43	0.22	5.42
–14	63.599	65.145	66.691	2.37	0.22	5.37
–13	60.318	61.751	63.183	2.32	0.22	5.33
–12	57.230	58.557	59.884	2.27	0.21	5.29
–11	54.321	55.551	56.781	2.21	0.21	5.25
–10	51.581	52.721	53.861	2.16	0.21	5.21

$B_{25/50}$ = 3950K, R_{25} = 10kΩ, T_R = 25°C, $\frac{\Delta R_T}{R_T}$: ± 0.5%,

T (°C)	Resistance (kΩ)			Relative Resistance Variation at a Specific Temperature (±%)	Temperature Measurement Error at a Specific Temperature (±°C)	Temperature Coefficient (%/°C)
	Minimum	Nominal	Maximum	$\frac{\Delta R_T}{R_T}$	$\Delta T_N = \frac{\Delta R_N}{R_{N+1} - R_{N-1}}$	$\alpha = \frac{R_{N-1} - R_{N+1}}{2 \times R_N}$
–9	48.999	50.055	51.111	2.11	0.20	5.17
–8	46.564	47.543	48.522	2.06	0.20	5.13
–7	44.268	45.175	46.081	2.01	0.20	5.09
–6	42.100	42.940	43.781	1.96	0.19	5.06
–5	40.054	40.832	41.611	1.91	0.19	5.03
–4	38.115	38.836	39.557	1.86	0.19	5.00
–3	36.283	36.951	37.619	1.81	0.18	4.96
–2	34.552	35.170	35.789	1.76	0.18	4.92
–1	32.916	33.488	34.060	1.71	0.17	4.89
0	31.368	31.897	32.427	1.66	0.17	4.88
1	29.887	30.377	30.866	1.61	0.17	4.87
2	28.487	28.939	29.391	1.56	0.16	4.83
3	27.161	27.579	27.996	1.51	0.16	4.80
4	25.906	26.292	26.677	1.47	0.15	4.76
5	24.718	25.074	25.429	1.42	0.15	4.80
6	23.559	23.886	24.213	1.37	0.14	4.84
7	22.461	22.762	23.063	1.32	0.14	4.80
8	21.422	21.699	21.975	1.27	0.13	4.77
9	20.438	20.692	20.946	1.23	0.13	4.74
10	19.506	19.739	19.972	1.18	0.13	4.70
11	18.622	18.835	19.048	1.13	0.12	4.67
12	17.783	17.978	18.174	1.09	0.12	4.64
13	16.988	17.166	17.345	1.04	0.11	4.61
14	16.233	16.396	16.559	0.99	0.11	4.57
15	15.517	15.666	15.815	0.95	0.10	4.58
16	14.825	14.960	15.095	0.90	0.10	4.60
17	14.169	14.291	14.413	0.85	0.09	4.56
18	13.545	13.656	13.767	0.81	0.09	4.53
19	12.953	13.053	13.153	0.77	0.09	4.50
20	12.391	12.481	12.571	0.72	0.08	4.49
21	11.852	11.933	12.014	0.68	0.08	4.48
22	11.340	11.412	11.484	0.63	0.07	4.45

$B_{25/50}$ = 3950K, R_{25} = 10kΩ, T_R = 25°C, $\frac{\Delta R_T}{R_T}$: ± 0.5%,						
T (°C)	Resistance (kΩ)			Relative Resistance Variation at a Specific Temperature (±%)	Temperature Measurement Error at a Specific Temperature (±°C)	Temperature Coefficient (%/°C)
	Minimum	Nominal	Maximum	$\frac{\Delta R_T}{R_T}$	$\Delta T_N = \frac{\Delta R_N}{R_{N+1} - R_{N-1}}$	$\alpha = \frac{R_{N-1} - R_{N+1}}{2 \times R_N}$
23	10.854	10.918	10.982	0.59	0.07	4.41
24	10.391	10.448	10.505	0.55	0.06	4.39
25	9.951	10.001	10.051	0.50	0.06	4.35
26	9.525	9.577	9.629	0.54	0.06	4.32
27	9.120	9.174	9.227	0.58	0.07	4.29
28	8.734	8.790	8.845	0.63	0.07	4.27
29	8.368	8.424	8.481	0.67	0.08	4.24
30	8.019	8.076	8.134	0.71	0.08	4.25
31	7.680	7.738	7.797	0.76	0.09	4.26
32	7.357	7.416	7.475	0.80	0.09	4.24
33	7.050	7.109	7.169	0.84	0.10	4.21
34	6.757	6.817	6.878	0.89	0.11	4.18
35	6.479	6.539	6.599	0.92	0.11	4.14
36	6.215	6.276	6.337	0.97	0.12	4.09
37	5.964	6.025	6.086	1.01	0.12	4.07
38	5.725	5.786	5.846	1.05	0.13	4.04
39	5.497	5.557	5.618	1.09	0.14	4.02
40	5.279	5.339	5.399	1.12	0.14	4.02
41	5.068	5.128	5.188	1.17	0.15	4.03
42	4.866	4.926	4.985	1.21	0.15	4.01
43	4.674	4.733	4.792	1.25	0.16	3.98
44	4.491	4.549	4.608	1.29	0.16	3.95
45	4.316	4.374	4.432	1.33	0.17	3.94
46	4.146	4.204	4.261	1.37	0.17	3.96
47	3.985	4.041	4.098	1.40	0.18	3.93
48	3.830	3.886	3.943	1.45	0.19	3.90
49	3.683	3.738	3.794	1.48	0.19	3.97
50	3.535	3.589	3.644	1.52	0.20	3.86
51	3.407	3.461	3.515	1.56	0.21	3.71
52	3.279	3.332	3.386	1.61	0.21	3.78
53	3.156	3.209	3.261	1.64	0.22	3.76
54	3.039	3.091	3.142	1.67	0.22	3.75

$B_{25/50}$ = 3950K, R_{25} = 10kΩ, T_R = 25°C, $\frac{\Delta R_T}{R_T}$: ± 0.5%,

T (°C)	Resistance (kΩ)			Relative Resistance Variation at a Specific Temperature (±%)	Temperature Measurement Error at a Specific Temperature (±°C)	Temperature Coefficient (%/˚C)
	Minimum	Nominal	Maximum	$\frac{\Delta R_T}{R_T}$	$\Delta T_N = \frac{\Delta R_N}{R_{N+1} - R_{N-1}}$	$\alpha = \frac{R_{N-1} - R_{N+1}}{2 \times R_N}$
55	2.926	2.977	3.028	1.71	0.23	3.73
56	2.818	2.869	2.919	1.76	0.24	3.69
57	2.715	2.765	2.814	1.79	0.24	3.69
58	2.616	2.665	2.713	1.82	0.25	3.68
59	2.522	2.569	2.617	1.85	0.25	3.64
60	2.431	2.478	2.525	1.90	0.26	3.59
61	2.345	2.391	2.437	1.92	0.27	3.55
62	2.263	2.308	2.354	1.97	0.28	3.51
63	2.184	2.229	2.273	2.00	0.29	3.50
64	2.109	2.152	2.196	2.02	0.29	3.49
65	2.036	2.079	2.122	2.07	0.30	3.49
66	1.965	2.007	2.050	2.12	0.30	3.49
67	1.897	1.939	1.980	2.14	0.31	3.46
68	1.832	1.873	1.914	2.19	0.32	3.47
69	1.770	1.809	1.849	2.18	0.32	3.43
70	1.709	1.749	1.788	2.26	0.33	3.37
71	1.653	1.691	1.730	2.28	0.34	3.34
72	1.598	1.636	1.674	2.32	0.35	3.30
73	1.546	1.583	1.620	2.34	0.36	3.28
74	1.495	1.532	1.568	2.38	0.36	3.26
75	1.447	1.483	1.518	2.39	0.36	3.34
76	1.398	1.433	1.468	2.44	0.36	3.42
77	1.351	1.385	1.420	2.49	0.37	3.36
78	1.306	1.340	1.373	2.50	0.38	3.32
79	1.263	1.296	1.328	2.51	0.37	3.36
80	1.221	1.253	1.285	2.55	0.39	3.31
81	1.181	1.213	1.245	2.64	0.41	3.26
82	1.143	1.174	1.205	2.64	0.41	3.24
83	1.107	1.137	1.167	2.64	0.41	3.21
84	1.071	1.101	1.131	2.72	0.43	3.18
85	1.038	1.067	1.096	2.72	0.43	3.14
86	1.005	1.034	1.062	2.76	0.44	3.14

$B_{25/50}$ = 3950K, R_{25} = 10kΩ, T_R = 25°C, $\frac{\Delta R_T}{R_T}$: ± 0.5%,

T (°C)	Resistance (kΩ)			Relative Resistance Variation at a Specific Temperature (±%)	Temperature Measurement Error at a Specific Temperature (±°C)	Temperature Coefficient (%/°C)
	Minimum	Nominal	Maximum	$\frac{\Delta R_T}{R_T}$	$\Delta T_N = \frac{\Delta R_N}{R_{N+1} - R_{N-1}}$	$\alpha = \frac{R_{N-1} - R_{N+1}}{2 \times R_N}$
87	0.974	1.002	1.030	2.79	0.44	3.14
88	0.943	0.971	0.998	2.83	0.45	3.14
89	0.914	0.941	0.968	2.87	0.47	3.08
90	0.886	0.913	0.939	2.90	0.47	3.07
91	0.859	0.885	0.910	2.88	0.46	3.11
92	0.832	0.858	0.883	2.97	0.48	3.09
93	0.807	0.832	0.856	2.94	0.47	3.13
94	0.782	0.806	0.831	3.04	0.49	3.10
95	0.758	0.782	0.806	3.07	0.51	3.01
96	0.736	0.759	0.783	3.10	0.52	2.96
97	0.715	0.737	0.760	3.05	0.52	2.92
98	0.694	0.716	0.739	3.14	0.55	2.86
99	0.674	0.696	0.718	3.16	0.55	2.87
100	0.654	0.676	0.697	3.18	0.54	2.96
101	0.635	0.656	0.677	3.20	0.54	2.97
102	0.617	0.637	0.658	3.22	0.55	2.90
103	0.599	0.619	0.639	3.23	0.56	2.91
104	0.582	0.601	0.621	3.24	0.56	2.91
105	0.565	0.584	0.604	3.34	0.57	2.91
106	0.548	0.567	0.587	3.44	0.59	2.91
107	0.532	0.551	0.570	3.45	0.59	2.90
108	0.517	0.535	0.554	3.46	0.60	2.90
109	0.502	0.520	0.538	3.46	0.60	2.88
110	0.488	0.505	0.523	3.47	0.63	2.77
111	0.474	0.492	0.509	3.56	0.65	2.74
112	0.461	0.478	0.495	3.56	0.65	2.72
113	0.449	0.466	0.482	3.54	0.66	2.68
114	0.437	0.453	0.469	3.53	0.64	2.76
115	0.425	0.441	0.457	3.63	0.70	2.61
116	0.414	0.430	0.445	3.60	0.67	2.67
117	0.403	0.418	0.434	3.71	0.67	2.75
118	0.392	0.407	0.422	3.69	0.71	2.58

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	Minimum	Nominal	Maximum	$\frac{\Delta R_T}{R_T}$	$\Delta T_N = \frac{\Delta R_N}{R_{N+1} - R_{N-1}}$	$\alpha = \frac{R_{N-1} - R_{N+1}}{2 \times R_N}$
119	0.382	0.397	0.412	3.78	0.75	2.52
120	0.372	0.387	0.401	3.75	0.69	2.71
121	0.362	0.376	0.390	3.72	0.67	2.79
122	0.352	0.366	0.380	3.83	0.70	2.73
123	0.343	0.356	0.370	3.79	0.71	2.67
124	0.333	0.347	0.360	3.89	0.71	2.74
125	0.324	0.337	0.351	4.01	0.75	2.67
126	0.316	0.329	0.341	3.80	0.74	2.58
127	0.307	0.320	0.332	3.91	0.69	2.81
128	0.299	0.311	0.324	4.02	0.74	2.73
129	0.291	0.303	0.315	3.96	0.80	2.48
130	0.284	0.296	0.307	3.89	0.82	2.36
131	0.277	0.289	0.300	3.98	0.82	2.42
132	0.270	0.282	0.293	4.08	0.82	2.48
133	0.264	0.275	0.286	4.00	0.85	2.36
134	0.258	0.269	0.280	4.09	0.85	2.42
135	0.252	0.262	0.273	4.01	0.81	2.48
136	0.246	0.256	0.267	4.10	0.88	2.34
137	0.240	0.250	0.261	4.20	0.95	2.20
138	0.234	0.245	0.255	4.29	0.95	2.24
139	0.229	0.239	0.249	4.18	0.91	2.30
140	0.224	0.234	0.244	4.27	0.91	2.35
141	0.218	0.228	0.238	4.39	0.91	2.41
142	0.213	0.223	0.232	4.26	0.95	2.24
143	0.208	0.218	0.227	4.36	0.95	2.29
144	0.203	0.213	0.222	4.46	0.95	2.35
145	0.199	0.208	0.217	4.33	0.90	2.40
146	0.194	0.203	0.212	4.43	0.90	2.46
147	0.189	0.198	0.207	4.55	1.00	2.27
148	0.185	0.194	0.202	4.38	0.94	2.32
149	0.181	0.189	0.198	4.50	0.94	2.38
150	0.177	0.185	0.193	4.32	1.00	2.16

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151	0.173	0.181	0.189	4.42	1.00	2.21
152	0.169	0.177	0.185	4.52	1.00	2.26
153	0.165	0.173	0.180	4.34	0.94	2.31
154	0.161	0.169	0.176	4.44	0.94	2.37
155	0.157	0.165	0.172	4.55	0.94	2.42
156	0.154	0.161	0.169	4.66	1.07	2.17
157	0.150	0.158	0.165	4.75	1.07	2.22
158	0.147	0.154	0.161	4.55	1.00	2.27
159	0.144	0.151	0.158	4.64	1.00	2.32
160	0.140	0.147	0.154	4.76	1.00	2.38
161	0.137	0.144	0.151	4.86	1.17	2.08
162	0.134	0.141	0.148	4.96	1.17	2.13
163	0.131	0.138	0.144	4.71	1.08	2.17
164	0.128	0.135	0.141	4.81	1.08	2.22
165	0.126	0.132	0.138	4.55	1.00	2.27
166	0.123	0.129	0.135	4.65	1.00	2.33
167	0.120	0.126	0.133	5.16	1.30	1.98
168	0.118	0.124	0.130	4.84	1.20	2.02
169	0.115	0.121	0.127	4.96	1.20	2.07
170	0.113	0.119	0.125	5.04	1.20	2.10
171	0.111	0.116	0.122	4.74	1.10	2.16
172	0.108	0.114	0.119	4.82	1.38	1.75
173	0.106	0.112	0.117	4.91	1.10	2.23
174	0.104	0.109	0.115	5.05	1.10	2.29
175	0.102	0.107	0.112	4.67	1.25	1.87
176	0.100	0.105	0.110	4.76	1.25	1.90
177	0.098	0.103	0.108	4.85	1.25	1.94
178	0.096	0.101	0.106	4.95	1.25	1.98
179	0.094	0.099	0.104	5.05	1.25	2.02
180	0.092	0.097	0.102	5.15	1.25	2.06
181	0.090	0.095	0.100	5.26	1.25	2.11
182	0.088	0.093	0.098	5.38	1.25	2.15

$B_{25/50}$ = 3950K, R_{25} = 10kΩ, T_R = 25°C, $\frac{\Delta R_T}{R_T}$: ± 0.5%,						
T (°C)	Resistance (kΩ)			Relative Resistance Variation at a Specific Temperature (±%)	Temperature Measurement Error at a Specific Temperature (±°C)	Temperature Coefficient (%/°C)
	Minimum	Nominal	Maximum	$\frac{\Delta R_T}{R_T}$	$\Delta T_N = \frac{\Delta R_N}{R_{N+1} - R_{N-1}}$	$\alpha = \frac{R_{N-1} - R_{N+1}}{2 \times R_N}$
183	0.087	0.091	0.096	4.95	1.13	2.20
184	0.085	0.089	0.094	5.06	1.50	1.69
185	0.083	0.088	0.092	5.11	1.50	1.70
186	0.082	0.086	0.091	5.23	1.13	2.33
187	0.080	0.084	0.089	5.36	1.50	1.79
188	0.079	0.083	0.087	4.82	1.33	1.81
189	0.077	0.081	0.086	5.56	1.50	1.85
190	0.076	0.080	0.084	5.00	1.33	1.88
191	0.074	0.078	0.082	5.13	1.33	1.92
192	0.073	0.077	0.081	5.19	1.33	1.95
193	0.071	0.075	0.079	5.33	1.33	2.00
194	0.070	0.074	0.078	5.41	2.00	1.35
195	0.069	0.073	0.077	5.48	1.33	2.05
196	0.068	0.071	0.075	4.93	1.17	2.11
197	0.066	0.070	0.074	5.71	2.00	1.43
198	0.065	0.069	0.073	5.80	2.00	1.45
199	0.064	0.068	0.071	5.15	1.17	2.21
200	0.063	0.066	0.070	5.30	1.17	2.27
201	0.062	0.065	0.069	5.38	1.75	1.54
202	0.060	0.064	0.067	5.47	1.75	1.56
203	0.059	0.063	0.066	5.56	1.75	1.59
204	0.058	0.062	0.065	5.65	1.75	1.61
205	0.057	0.061	0.064	5.74	1.17	2.46
206	0.056	0.059	0.063	5.93	1.17	2.54
207	0.055	0.058	0.062	6.03	1.75	1.72
208	0.054	0.057	0.061	6.14	1.75	1.75
209	0.053	0.056	0.059	5.36	1.50	1.79
210	0.052	0.055	0.058	5.45	1.50	1.82
211	0.051	0.054	0.057	5.56	1.50	1.85
212	0.050	0.053	0.056	5.66	1.50	1.89
213	0.049	0.052	0.055	5.77	3.00	0.96
214	0.049	0.052	0.054	4.81	2.50	0.96

$B_{25/50}$ = 3950K, R_{25} = 10kΩ, T_R = 25°C, $\frac{\Delta R_T}{R_T}$: ± 0.5%,						
T (°C)	Resistance (kΩ)			Relative Resistance Variation at a Specific Temperature (±%)	Temperature Measurement Error at a Specific Temperature (±°C)	Temperature Coefficient (%/˚C)
	Minimum	Nominal	Maximum	$\frac{\Delta R_T}{R_T}$	$\Delta T_N = \frac{\Delta R_N}{R_{N+1} - R_{N-1}}$	$\alpha = \frac{R_{N-1} - R_{N+1}}{2 \times R_N}$
215	0.048	0.051	0.054	5.88	1.50	1.96
216	0.047	0.050	0.053	6.00	1.50	2.00
217	0.046	0.049	0.052	6.12	1.50	2.04
218	0.045	0.048	0.051	6.25	1.50	2.08
219	0.045	0.047	0.050	5.32	1.25	2.13
220	0.044	0.046	0.049	5.43	2.50	1.09
221	0.043	0.046	0.048	5.43	2.50	1.09
222	0.042	0.045	0.048	6.67	1.50	2.22
223	0.042	0.044	0.047	5.68	1.25	2.27
224	0.041	0.043	0.046	5.81	2.50	1.16
225	0.040	0.043	0.045	5.81	2.50	1.16
226	0.040	0.042	0.045	5.95	1.25	2.38
227	0.039	0.041	0.044	6.10	2.50	1.22
228	0.039	0.041	0.043	4.88	2.00	1.22
229	0.038	0.040	0.043	6.25	2.50	1.25
230	0.037	0.040	0.042	6.25	2.50	1.25
231	0.037	0.039	0.042	6.41	2.50	1.28
232	0.036	0.039	0.041	6.41	2.50	1.28
233	0.036	0.038	0.040	5.26	2.00	1.32
234	0.035	0.038	0.040	6.58	2.50	1.32
235	0.035	0.037	0.039	5.41	2.00	1.35
236	0.034	0.037	0.039	6.76	2.50	1.35
237	0.034	0.036	0.038	5.56	2.00	1.39
238	0.033	0.036	0.038	6.94	2.50	1.39
239	0.033	0.035	0.037	5.71	2.00	1.43
240	0.033	0.035	0.037	5.71	2.00	1.43
241	0.032	0.034	0.036	5.88	2.00	1.47
242	0.032	0.034	0.036	5.88	2.00	1.47
243	0.031	0.033	0.035	6.06	2.00	1.52
244	0.031	0.033	0.035	6.06	2.00	1.52
245	0.030	0.032	0.034	6.25	2.00	1.56
246	0.030	0.032	0.034	6.25	2.00	0.00

$B_{25/50}$ = 3950K, R_{25} = 10kΩ, T_R = 25°C, $\frac{\Delta R_T}{R_T}$: ± 0.5%,						
T (°C)	Resistance (kΩ)			Relative Resistance Variation at a Specific Temperature (±%)	Temperature Measurement Error at a Specific Temperature (±°C)	Temperature Coefficient (%/°C)
	Minimum	Nominal	Maximum	$\frac{\Delta R_T}{R_T}$	$\Delta T_N = \frac{\Delta R_N}{R_{N+1} - R_{N-1}}$	$\alpha = \frac{R_{N-1} - R_{N+1}}{2 \times R_N}$
247	0.030	0.032	0.033	4.69	1.50	1.56
248	0.029	0.031	0.033	6.45	2.00	1.61
249	0.029	0.031	0.033	6.45	2.00	1.61
250	0.028	0.030	0.032	6.67	2.00	1.60

To ensure optimal performance and reliability, it is recommended to follow proper storage procedures for the ATH10KR8B3950K0.5% thermistor. Here are some guidelines:

1. Store the thermistors only in their original packaging and do not open the package before storage.
2. The recommended storage temperature is between −25°C to +45°C, with a relative humidity of less than 75% on average and a maximum of 95%. Dew precipitation is not allowed.
3. Do not expose the thermistors to heat or direct sunlight during storage as this may cause deformation of the packing material or sticking of the thermistors, leading to difficulties during mounting.
4. Avoid contamination of the thermistor's surface during storage, handling, and processing.
5. Do not store the thermistor in harmful environments containing corrosive gases like SOx, Cl, etc.
6. After opening the factory seals, such as polyvinyl-sealed packages, it is recommended to use the thermistors as soon as possible.
7. For optimal soldering performance, it is recommended to solder the thermistors within 12 months for SMDs and 24 months for leaded components after shipment from the manufacturer, ATI.

When handling NTC thermistors, it is important to prevent them from being dropped, as this could cause chip-offs and damage to the components. To avoid any damage, components should not be touched with bare hands, and gloves are recommended. It is also important to prevent any contamination of the thermistor surface during handling to ensure accurate readings.

When soldering the ATH10KR8B3950K0.5% thermistor, it is important to use a resin-type or non-activated flux. Insufficient preheating can cause ceramic cracks, so proper preheating is recommended. Rapid cooling by dipping in solvent is not recommended. It is also recommended to completely remove any flux residue after soldering to prevent contamination or damage to the thermistor.

ORDERING INFORMATION

Part Number	Buy Now
ATH10KR8B3950K0.5%	

NOTICE

1. It is important to carefully read and follow the warnings, cautions, and product-specific notes provided with electronic components. These instructions are designed to ensure the safe and proper use of the component and to prevent damage to the component or surrounding equipment. Failure to follow these instructions could result in malfunction or failure of the component, damage to surrounding equipment, or even injury or harm to individuals. Always take the necessary precautions and seek professional assistance if unsure about proper use or handling of electronic components.
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